



State of Utah

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TO: Internal File

FROM: Michael Suflita, Reclamation Hydrologist and Team Lead 

RE: Link Canyon Portal, Canyon Fuel Company, LLC, SUFCO Mine, C041/002-AM02E

SUMMARY:

On April 8, 2002 the Division received an amendment to re-open an old portal in the abandoned Link Canyon mine. This portal would be connected to the existing SUFCO mine in the Pines Tract. The portal is needed to provide intake ventilation, an emergency escapeway, and for access to the electrical power substation located directly across the canyon from the portal. The old Link Canyon Mine is believed to have been closed in 1960. The new portal access is estimated to be used over the next 8 to 10 years. The proposed new disturbed area is 0.23 acre in size, with an estimated 0.14 acre actually to be disturbed. The entire area is contained within the present approved Permit Area.

The U.S. Forest Service is the Federal Surface Management Agency since the proposed disturbance is within the Manti La-Sal National Forest. The Forest Service does have concerns about the project, although the letter enumerating these concerns has not yet been received by the Division. These concerns will be forwarded to the mine Operator.

The Utah Division of Water Quality has determined that, since the natural water flowing from the portal is not process wastewater, and since it has been flowing naturally for a number of years, no UPDES discharge point will be required if the water is kept flowing.

The U.S. Fish and Wildlife has reviewed the project and has no comments on it.

OPERATION PLAN

HYDROLOGIC INFORMATION

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Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

General

The proposed new disturbed area is 0.23 acre in size, with an estimated 0.14 acre actually to be disturbed and needing reclamation. The entire area is contained within the present approved Permit Area. The access road to the pad and portal area branches off the Link Canyon Road for a maximum distance of about 200 feet. Link Canyon Road is a public road. The road and portal would be constructed by simple cut and fill methods. There is a small riparian area, about 40 feet by 50 feet or 0.05 acre, at the old portal. The source of this water is unknown, but believed due to two possible sources. The first is water that has accumulated within, and filled up, the old Link Canyon Mine. This is believed most likely. The second possible source is a spring located above the portal, higher up in Link Canyon. Opening the portal is expected to reveal the water source. Water flows in this riparian area are estimated to be 5 gallons per minute or less, depending on the season of the year.

Surface-water monitoring

No water monitoring has been done at this site in the past and none is needed as a result of reopening the old portal.

Discharges into an underground mine

Water is believed to have filled up the old Link Canyon Mine. The Operator proposes to remove this water during rehabilitation of the surface portal. Water removal would be by draining it into the SUFCO Mine and discharging that water at UPDES point number 003, which is an existing discharge at the main minesite.

Underground water is expected to continue flowing to the area during and after this new construction. The Operator proposes to implement a water collection and pumped discharge system that will allow water in the abandoned mine, only, to be discharged near the old portal site. There is also an option to discharge the water at another old portal about 100 feet south of the portal to be reopened. Either option would maintain flows to the Link Canyon drainage and preserve riparian areas.

It's worth noting that when the Pines Tract was evaluated for mining, the U.S. Forest Service developed an Environmental Impact Statement. That EIS anticipated a new company operating the mines in this area and development of a completely new disturbed area for a

minesite in Link Canyon, at the site of the proposed portal opening. Further, that new minesite was assumed to completely obliterate the riparian area being discussed here. This would mean no water flows for the life of the new mine. This current proposal will also obliterate the riparian area. However, the water flow will be maintained during the operation of the mine and will be restored at reclamation. The total time during which the riparian area proper will be lost is about 8 to 10 years, as opposed to the life of mine anticipated by a new minesite in Link Canyon.

Diversions

Plate 5-2F shows two drainage diversion ditches, Channel 1 and Channel 2, leading to a catch basin. These ditches have been designed with only consideration of the runoff of the road and pad areas, each about 0.04 acre respectively. The resulting flows of 0.02 cfs are minimal. There is, however, one significant omission in the design of these two channels. That is, there are undisturbed drainages, originating outside the disturbed area, contributing water to these ditches. The ditches must be redesigned to accommodate these undisturbed drainage contribution. The ditches were designed using a 10-year, 6-hour design storm, which is appropriate for a temporary diversion on an intermittent stream. The diversion ditches have 0.3 foot of freeboard, which is adequate design.

Typical of Utah coal mines, there is a culvert under the disturbed area to convey storm runoff under the area. The culvert was designed using the 10-year, 6-hour storm and the design used the 776-acre drainage area above the inlet to the culvert. While Manning's n and other aspects of the calculation are appropriate, the Division questions the runoff curve numbers part of that calculation. Muskingum soil (nearly bare and untilled, and alluvial valley fans) and short grass pasture were selected as the soil types for the drainage. This resulted in runoff curve numbers of 63 and 70 for the two subdrainages. Given the percentage of rock outcrop in Link Canyon above the portal, these runoff curve numbers appear low. The Operator will need to justify, or revise, the runoff curve numbers and quantify the amount of rock outcrop involved in the drainage. Also, the undisturbed drainage flowing onto the disturbed area must be added to the culvert calculations. It appears the culvert will need to be larger, or multiple culverts be used.

Stream buffer zones

The drainage area above the new portal is 776 acres, which is greater than one square mile. By regulatory definition the stream is "intermittent". Therefore, stream buffer zone signs will be required.

Sediment control measures

Several areas of the road and pad construction are below the road and pad. Silt fences at the lower end of the construction will protect these areas. The Plate 5-2F needs to show the location of all silt fences. Further, the plate needs to show the direction of drainage across the

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road and pad to the diversion ditches. The Alternate Sediment Control Areas (ASCA) areas also need to be shown on the plate. Calculations for the ASCA areas are provided and show the silt fences should be adequate to contain sediment from the areas.

No details are provided to show construction of the catch basin shown on Plate 5-2F. These will need to be shown, especially that this basin will prevent excess sediment from leaving the new disturbed area. The Operator will need to commit to cleaning out this basin as needed to keep the basin operating as a sediment trap.

Discharge structures

There is no indication of riprap or other channel erosion protection at the outlet of the culvert. If the culvert discharge is onto bedrock, this would be acceptable. If the culvert discharge is onto erodible materials, erosion protection must be provided. The Operator must justify lack of discharge structures or provide them.

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Accordingly, the Permittee must address those deficiencies as found within this Draft Technical Memo and provide the following, prior to approval, in accordance with the requirements of:

R645-301-121.200, Indicate on Plate 5-2F 1) The direction of water drainage on the road and portal pad areas, 2) The location of all silt fences, 3) Darker contour lines, 4) The elevation at the connection point where the existing SUFCO mine joins the access to the old Link Canyon mine, and 5) Location of all the Alternate Sediment Control Areas.

R645-301-742.300, 1) Redesign Channel 1 and Channel 2 to accommodate the undisturbed drainage flows into those ditches, 2) Justify, or revise, the runoff curve numbers and quantify the amount of rock outcrop involved in the drainage above the culvert, and 3) Add the undisturbed drainage flowing onto the disturbed area to the culvert size calculations.

R645-301-731.600, Provide stream buffer zone signs and indicate their placement on Plate 5-2F.

R645-301-742, Show construction of the catch basin indicated on Plate 5-2F. Include features that prevent excess sediment from leaving the new disturbed area. The Operator will need to commit to cleaning out this basin as needed to keep the basin operating as a sediment trap.

R645-301-744, Justify the lack of discharge structures at the culvert outlet or provide them.

RECOMENDATIONS:

The proposed amendment should not be approved in its present form. The enumerated deficiencies need to be corrected before approval is granted

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